

REMARKS

Claims 1-35 are now pending in the application. Claim 1 has been amended. The Examiner is respectfully requested to reconsider and withdraw the rejection in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayasaka, et al. (U.S. Pat. No. 6,809,421 B1) in view of Pace (U.S. Pat. No. 5,793,105). This rejection is respectfully traversed.

Notwithstanding, the Applicant amended claim 1. Support for this amendment is found at least in the drawings. Amended claim 1 is directed to a method of manufacturing a semiconductor device having electrodes penetrating a semiconductor substrate, the method comprising the steps of: forming a concave portion extending from an active surface of a semiconductor substrate on which an integrated circuit is formed to an interior of the semiconductor substrate; forming a first insulating layer on an inner surface of the concave portion; filling an inner side of the first insulating layer with an electroconductive material so as to form an electrode; exposing a distal end portion of the first insulating layer by etching a rear surface of the semiconductor substrate so that the distal end portion of the electrode protrudes from the rear surface of the substrate; forming a second insulating layer on the rear surface of the substrate; and exposing the distal end portion of the electrode by removing the first insulating layer and the second insulating layer from the distal end portion of the electrode, wherein a cross-sectional

area of the distal end portion is made equal to or smaller than a cross-sectional area of the electrode in the substrate.

The Applicant submits that neither Hayasaka nor Pace teaches or suggests that a cross-sectional area of the distal end portion is made equal to or smaller than a cross-sectional area of the electrode in the substrate. Accordingly, claim 1 is patentable over Hayasaka and Pace.

Claims 3 and 4 depend from claim 1, and they include all of the limitations of claim 1. Accordingly, claims 3 and 4 are patentable over Hayasaka and Pace for at least the same reasons as set forth above regarding claim 1. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

ALLOWABLE SUBJECT MATTER

Claims 2 and 5 stand objected to but were deemed allowable if rewritten into independent form. Applicant elects to defer rewriting these claims. A continuing indication of their allowability is respectfully requested.

CLAIMS 34 AND 35

Claims 34 and 35 were added in the last response. These claims were not specifically addressed in the above action. The status of claims 34 and 35 is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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